

REPORT TITLE

Enforcement Analytical Method

DATA REQUIREMENT

OPPTS 880.1400 (40 CFR 158.167)

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FACILITY

N/A

SPONSOR

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STATEMENT OF NO DATA CONFIDENTIALITY CLAIMS

No claim of confidentiality is made for any information contained in this report on the basis of its falling within the scope of FIFRA § 10(d)(1)(A), (B) or (C).

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STATEMENT OF GOOD LABORATORY PRACTICE COMPLIANCE

The descriptive information in this report is not subject to the requirements of 40 CFR Part 160.

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Enforcement Analytical Method

Product: *CDG Solution 3000*, manufactured for CDG Research Corp., File Symbol 75757-E

Preface – The following procedure is derived from Standard Method 4500 - ClO₂ E. Amperometric Method II. Since CDG SolutionTM is made by dissolving high purity chlorine dioxide in high purity water, there is no chlorite or chlorate ion present. Therefore, steps for measuring chlorite and chlorate can be omitted. The following test assures that chlorine dioxide is at the target concentration of 3000 ppm. It also provides a second level of assurance that the *Gas:SolidTM* chlorine dioxide system is functioning properly, and chlorine has not broken through.

To test a batch of solution:

Fill a 250ml sample bottle from the production batch.

Fill the titrator vessel to the mark (~200ml) with distilled water.

Add 1ml of Ph-7 buffer solution.

Pipette a 1.0ml sample from the sample and add it to the buffered distilled water.

Add 1g of potassium iodide (KI) granules while stirring.

Titrate the resulting mixture with 0.100 N Sodium Thiosulfate.

The volume of titrant used is A ml.

Add 2ml of 2.5 N HCl to the same solution.

Keep the solution in the dark for 5 minutes.

Re-titrate the solution with the same titrant.

The volume of titrant used is B ml.

Apply the formulae.

Chlorine dioxide, mg $ClO_2/L = (5/4) \times (B - D) \times N \times 13490$ Chlorine, mg $Cl_2L = \{A - [(B - D)/4]\} \times N \times 35453$

With D = 0 (No chlorite) and N = 0.1.

Report ClO₂ and Cl₂ concentrations in ppm.

The accuracy of the procedure is \pm 3%.